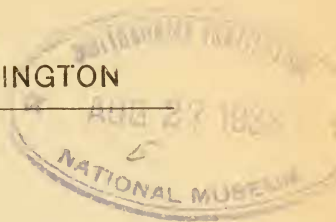


PROCEEDINGS  
OF THE  
BIOLOGICAL SOCIETY OF WASHINGTON



NEW OR OTHERWISE NOTEWORTHY NORTHWEST-  
ERN PLANTS<sup>1</sup>—II: TWO NEW SPECIES FROM  
THE GRAND CANYON OF THE SNAKE RIVER.<sup>2</sup>

BY LINCOLN CONSTANCE AND REED C. ROLLINS.

The spectacular more-than-a-mile-deep Hell's Canyon of the Snake River has been, for a decade, the mecca of annual excursions from the State College of Washington.

The precipitous basaltic or granitic walls have proved an effective barrier to the migration outwards of species which have become established within these potent obstacles to any egress. It is not surprising, then, that much of the Snake Canyon exhibits a flora with a strongly endemic flavor. The 1936 expedition revealed the new species described herein, and it is to be expected that subsequent collecting will bring others to light.

***Arabis crucisetosa*, sp. nov.**

Perennial; caudex simple or branched, clothed with leaf-bases of former seasons; stems several to numerous, rarely single, simple or sometimes branched above, slender, glabrous or often sparsely stellate-pubescent below, 1-4 dm. high; basal leaves numerous, spatulate to obovate, obtuse, petiolate, entire or remotely dentate, harshly stellate-pubescent with cross-shaped hairs or rarely almost glabrous, dark green above, paler or sometimes purplish below, 2-6 cm. long, 6-15 mm. wide, petiole nearly equalling the blade in length; cauline sessile, neither sagittate nor clasping, entire or rarely few-toothed, linear-oblong, obtuse, 1-3 cm. long, 2-6 mm. wide; stellate-pubescent or often glabrous on the faces but with stellate marginal hairs; sepals oblong, yellowish, rarely purple-tipped, scariouly-margined, glabrous, 3-5 mm. long; petals ligulate, white, 5-10 mm. long; pedicels slender, glabrous, spreading, 1-2 cm. long; pods erect, glabrous, straight or nearly so, 1-nerved below, 2-4 cm. long, 1-1.5 mm. wide;

<sup>1</sup> Constance L., and Dillon, L. A., *New or Noteworthy Northwestern Plants—I. Madreña*, vol. 3, no. 4, pp. 170-173, 1935.

<sup>2</sup> Contribution from the Botany Department of the State College of Washington, No. 65.

tipped with a stout capitate style; seeds (immature) ellipsoidal, wingless (?), uniseriate.

Planta perennis; caudex simplex vel ramosus; caulibus saepe numerosis, glabris vel basi sparsim stellato-pubescentibus, 1-4 dm. altis; foliis radicalibus spatulatis vel obovatis, obtusis, petiolatis, integris, 2-6 cm. longis, 5-15 mm. latis, stellato-pubescentibus cum setis cruciformibus; foliis caulinis sessilibus, nec sagittatis nec amplectentibus, integris, lineari-oblongis, obtusis, margine stellato-pubescentibus, 1-3 cm. longis, 2-6 mm. latis; petalibus ligulatis, albis, 5-10 mm. longis; pediculis teneribus, glabris, divaricatis, 1-2 cm. longis; siliqua erecta, glabra, 1-nervata ad basim, 2-4 cm. longa, 1-1.5 mm. lata; stigmatibus robusto capitato; seminibus immaturis ellipsoidalibus, inalatis (?) 1-seriatis.

*Type locality.*—between Steep Creek and Willow Creek, Snake River Canyon, Nez Perce National Forest, Idaho County, Idaho.

*Specimens examined.*—IDAHO, Idaho Co.; between Steep Cr. & Willow Cr., May 16, 1936, *Rollins, Constance & Dillon 1107* (type); 4 miles up Sheep Cr. from Snake River, May 16, 1936, *J. Packard*; between Lightning Cr. & Middle Fork of Sheep Cr., May 16, 1936, *Beaubier, Forsberg & Hardt 74*; peak, 4 miles south of mouth of Sheep Cr., May 16, 1936, *R. L. Davidson 107*; Squaw Cr. trail, T 24 N, R 2 W, May 16, 1936, *Peters & Moore 154*; near Lightning Cr., May 16, 1936, *F. Meyer 260*.

*Arabis crucisetosa*, during anthesis, presents the same general features as *A. Nuttallii* Robins. and *A. furcata* Wats. but, as fruiting progresses, the differences between the three species are accentuated. The dense, rather harsh, stellate pubescence on the basal leaves and lower portions of the plants of *A. crucisetosa* distinguishes it markedly from the other two species, which possess only simple hairs. The short narrow pods, wingless (?) seeds, slender spreading pedicels, and, especially, the characteristic stellate pubescence, suggest an affinity for *A. Whitedii* Piper.

#### **Mirabilis MacFarlanei, sp. nov.**

Plants perennial from a stout deep-seated root; herbage finely pubescent throughout (except for upper leaf-surfaces and stem-bases) with minute simple ascending hairs; stems freely branched (swollen at nodes), few to numerous, decumbent or ascending, 6-10 dm. high and forming hemispherical clumps 6-12 dm. in diameter; petioles 1-2.5 cm. long in lower leaves, uppermost leaves nearly sessile; leaves opposite, succulent, green above and glaucescent below, entire or slightly crenulate, truncate or barely cordate at base, obtuse or rounded at apex; lower leaves orbicular or ovate-deltoid, 4-7.5 cm. long, 5-8 cm. broad, progressively smaller and narrower upwards, the uppermost narrowly ovate, 2.5-3.5 cm. long, 1.5-2 cm. broad; flowers perfect, involucrate; involucre terminal and in upper leaf axils, 4-7-flowered, unequally 5-lobed, green or purplish, slightly if at all accrescent and nearly rotate in fruit, 1.5-2.5 cm. high; bracts often twice the length of the involucre, oval, obtuse or apiculate; peduncles stout, 0.5-4 cm. long; perianth slightly oblique, bright rose-purple, broadly funnelform, 1.5-2.5 cm. long, the limb 1-3 cm. broad, slightly exceeding the tube in length; stamens 5, circinnate before and after

anthesis, filaments unequal, capillary, slightly connate at base and exerted; anthers didymous, longitudinally dehiscent; ovary subglobose; style filiform; stigma capitate, papillose; anthocarp ellipsoidal, brownish-gray, 6–8 mm. long, almost terete, marked (at least at base) with 10 low ribs, glabrous but rugose-tuberculate, constricted at base, mucilaginous when wet; seed oblong-elliptical, light brown, 3–5 mm. long.

Planta perennis, minute pubescens; caulibus ramosis, 6–10 dm. altis; foliis oppositis, integris, pedunculatis, orbiculo vel ovato-deltaideis, truncatis vel basi cordatis, obtusis vel apice rotundis; involucri 5–7 floris, fere rotatis, 1.5–2.5 cm. altis; bracteis involucri ovalibus, saepe fere liberis; perianthis late crateriformibus, 1.5–2.5 cm. longis; staminibus exsertis; anthocarpis fere teretibus, rugoso-tuberculatis, 6–8 mm. longis.

*Type locality*.—Lower Cottonwood Landing, between mouth of Somer's Creek and Pittsburg Landing, Snake River Canyon, Wallowa County, Oregon.

*Specimens examined*.—OREGON, Wallowa Co.: Lower Cottonwood Landing, May 15, 1936, Constance, Rollins, Clements & Dillon 1579 (type).

This Four-o'clock falls in the section *Quamoclidion* of *Mirabilis*, which is considered of generic rank by Standley in the North American Flora and other publications. *M. MacFarlanei* is most closely related to *M. Greenei* Wats., of the Klamath (Siskiyou) region of California and Oregon, with which it agrees in pubescence. *M. MacFarlanei* differs from *M. Greenei* in having broader leaves, obtuse at apex and rounded or cordate at base; shorter, nearly rotate involucre, with broader, often nearly free, bracts; exerted stamens; shorter perianth, and almost terete anthocarp. The peculiarly isolated occurrence of *M. MacFarlanei*, which is roughly 350 miles distant from the nearest reported occurrence of *M. Greenei*, effectually completes the separation.

This plant is named for Mr. E. B. MacFarlane, for thirty years pilot of boats on the Snake River, who was the actual discoverer of the species, and who pointed it out to the writers.

The types of the two species described in this paper are in the herbarium of the State College of Washington; the other specimens are in the possession of Mr. Rollins.